

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 Claims 1-5 (canceled)

1 Claim 6 (currently amended): A system for processing  
2 information represented by an optical signal in a headend of  
3 an HFC cable arrangement to provide a service, the system  
4 comprising:

5 ~~a~~ an optical receiver for converting the optical signal  
6 to a composite baseband signal representing a plurality of  
7 information streams;

8 a demultiplexing device responsive to the composite  
9 baseband signal for generating the plurality of information  
10 streams;

11 a plurality of modulators, coupled to said demultiplexing  
12 device, each of the plurality of modulators corresponding to a  
13 different one of the plurality of information streams, each  
14 modulator for producing a corresponding modulated analog  
15 signal from one of said plurality of information streams;

16 a combiner for combining a plurality of modulated analog  
17 signals generated by said modulators to produce a combined  
18 modulated analog signal; and

19 a subsystem for processing the combined modulated analog  
20 signal at least one of the information streams to realize the  
21 service.

1 Claim 7 (original): The system of claim 6 wherein the service  
2 includes an interactive service.

1 Claim 8 (original): The system of claim 6 wherein the at  
2 least one information stream includes data bits.

1 Claim 9 (original): The system of claim 6 further comprising  
2 an apparatus for providing cable television, which is  
3 different from the service.

1 Claim 10 (original): The system of claim 9 wherein a signal  
2 representing the cable television travels in a direction  
3 different from that of the optical signal in the HFC cable  
4 arrangement.

1 Claim 11 (original): The system of claim 6 wherein the  
2 subsystem includes a device for modulating a designated  
3 carrier with the at least one information stream to form a  
4 modulated signal.

1 Claim 12 (original): The system of claim 6 wherein the  
2 subsystem includes a cable modem termination system (CMTS).

1 Claim 13 (currently amended): The system of claim 12 wherein  
2 the CMTS includes ~~a digital~~ an analog input interface.

1 Claim 14 (original): The system of claim 6 wherein the  
2 composite baseband signal is encoded in accordance with an  
3 error correction coding technique.

1 Claim 15-25 (canceled):

1 Claim 26 (original): A method for processing information  
2 represented by an optical signal in a headend of an HFC cable  
3 arrangement to provide a service, the method comprising:  
4 converting the optical signal to a composite baseband  
5 signal representing a plurality of information streams;

6 in response to the composite baseband signal, generating  
7 the plurality of information streams;  
8 modulating at least some of said plurality of information  
9 streams to produce modulated analog signals, a separate  
10 modulated analog signal being produced from each of said at  
11 least some of said plurality of information streams;  
12 combining a plurality of said separate modulated analog  
13 signals generated to produce a combined modulated analog  
14 signal;  
15 and processing the combined modulated analog signal at  
16 ~~least one of the information streams~~ to realize the service.

1 Claim 27 (original): The method of claim 26 wherein the  
2 service includes an interactive service.

1 Claim 28 (original): The method of claim 26 wherein the at  
2 least one information stream includes data bits.

1 Claim 29 (original): The method of claim 26 wherein in  
2 processing the at least one information stream, a designated  
3 carrier is modulated with the at least one information stream  
4 to form a modulated signal.

1 Claim 30 (original): The method of claim 26 wherein the  
2 composite baseband signal is encoded in accordance with an  
3 error correction coding technique.

1 Claim 31-32 (canceled):

1 Claim 33 (new) The system of claim 33, wherein said subsystem  
2 for processing the combined modulated analog signal has an

3 analog input interface for receiving said combined modulated  
4 analog signal.

1 Claim 34 (new) The method of claim 36, wherein  
2 modulating at least some of said plurality of information  
3 streams includes modulating each of the at least some of said  
4 plurality of information streams using a different carrier  
5 frequency corresponding to a separate channel.

1 Claim 35 (new): The method of claim 34, wherein  
2 processing the combined modulated analog signal to  
3 realize the service includes:  
4 recovering data from individual user terminals; and  
5 reformatting the data into Internet Protocol packets.

1 Claim 36 (new): The method of claim 34, wherein processing the  
2 combined modulated analog signal to realize the service  
3 includes:  
4 recovering data from individual user terminals; and  
5 reformatting the data into ATM cells.